

## COMPUTER SYSTEM CONTROLLER HAVING INTERNAL MEMORY AND EXTERNAL MEMORY CONTROL

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### ABSTRACT OF THE DISCLOSURE

The present invention relates generally to an optimized memory architecture for computer systems and, more particularly, to integrated circuits that implement a memory subsystem that is comprised of internal memory and control for external memory. The invention includes one or more shared high-bandwidth memory subsystems, each coupled  
10 over a plurality of buses to a display subsystem, a central processing unit (CPU) subsystem, input/output (I/O) buses and other controllers. Additional buffers and multiplexers are used for the subsystems to further optimize system performance.